

FLOODPLAIN STUDIES

Alternative Floodplain Management Strategies

Technical Studies and Economic Impacts

Revised March 22, 2001

A. Corps of Engineers Study

Present-day regulations are based upon a concept that protects a "floodway" along the stream channel but allows fill and development in the balance of the floodplain outside of the floodway. The floodway has been mapped to protect the area that needs to be kept free of most development in order that all other development within the 100-year floodplain will cause no greater than 1' of rise in flood heights. *Thus, present-day regulations anticipate 1' of rise.*

The City and the Lower Platte South Natural Resources District are working with the Corps of Engineers to conduct a study which will analyze the effects of filling in the floodplain and evaluate a range of alternatives for revised floodplain regulations to address this issue. The study will include the following steps:

1. **Evaluate alternative floodplain management strategies** utilized by other communities across the U.S.
2. **Model a 'Do Nothing' Alternative (1' -Rise Floodway).** This step of the study will model the consequences of continuing with our present-day regulations, which allow for up to 1' of rise to occur in flood heights:
 - ✂ Model the existing conditions of three stream reaches:
 - Salt Creek from Pioneers Blvd to 'O' Street - 3.6 miles
 - Dead Man's Run from 33rd Street to 56th Street - 1.8 miles
 - Beal Slough from Salt Creek to 40th Street - 3.8 miles
 - ✂ Moderate scenario: 50% loss of flood storage
 - ✂ Worst-case scenario: 1' rise in flood heights
 - ✂ Demonstrate the hydrologic/hydraulic impact (how high do flood heights rise? how much does the floodplain boundary expand?)

- ✕ Demonstrate the economic impact (how much more damage is caused to homes or businesses already within the floodplain? how many additional homes or business are brought into the floodplain?)
- ✕ Delineate potential floodplain boundaries. What would the floodplain boundaries be if there were a 50% loss of flood storage in the floodplain or if there were a full 1' rise in flood heights?

3. Model Other Potential Alternatives. The following alternatives will be modeled using the Dead Man's Run stream reach as an example:

- ✕ **'No Net Rise' Alternative.** Evaluate the effect of a 'No Net Rise' alternative, or "0' Rise Floodway," that would require all development to demonstrate that it is causing no rise in the elevation of the 100-year flood.
- ✕ **½-Foot Rise Alternative.** Model the effect of designating a "½-Foot Rise" floodway. The boundaries of floodways today are established to allow for up to a 1-foot rise in 100-year flood heights. This alternative would model the effect of a wider floodway established to allow for only a ½-foot of rise.
- ✕ **1' -Rise Floodway/Compensatory Storage in Flood Fringe.** Evaluate the effect of continuing to regulate no rise in the floodway, while demonstrating no loss of storage in the balance of the floodplain.
- ✕ **Flood insurance savings.** For each scenario, document flood insurance savings possible through the National Flood Insurance Program Community Rating System for adopting a higher standard.

B. Other analysis. The City will be conducting additional studies to evaluate:

- ✕ Economic impact to costs of developing within the floodplain
- ✕ Economic impact to public infrastructure costs